

it from the uterus skillfully, seems to me plain from what the woman herself told me, and what fell out afterwards. The placenta adhering fast to the uterus, required more art to bring it away than she was mistress of, which probably induced her to use violence; by which she forced down the fundus uteri, so overstrained the ligaments and all that is appended to them, especially the ligamentum latum of the left side, and its ovarium, which may be reasonably allowed to have been hurt in the relaxation with the rest. Hence the elasticity of these injured parts was not only impaired, but the small lymphatics ruptured, so that the extravasated lymph rushing out, thickened, and not being able to recirculate, dilated the injured ovarium, and thus increased the tumour, and the parts being already excessively distended, and being no longer able to resist the new influx of fresh secretions, ruptured also, and by degrees augmented to that huge and enormous bulk."

DOMESTIC SUMMARY.

On the Development of the Purkinjean Corpuscle in Bone. By JOSEPH LEIDY, M. D.—Schwann, in his "*Mikroskopische Untersuchungen*," considers that the Purkinjean corpuscle of bone is derived from the pre-existing cartilage cell, and that the canaliculi are prolongations, or protrusions of the cell wall. Many later authors, among whom are Gerber, and Todd and Bowman, express the opinion that it originates in the nucleus of the temporary cartilage cell, and Tomes entertains the idea, that after the formation of the osseous tubes, in the process of ossification, the latter are filled up by a deposit of osseous granules, and while this deposit is going on, small cells are left, which are the rudimentary Purkinjean corpuscles. Henle thinks them to be the cavities of cells, the thickened walls of which are pierced by the canaliculi. Hassall confirms the view of Schwann by stating, "the bone cells (Purkinjean corpuscles) are to be regarded as complete corpuscles, the canaliculi of which are formed by the extension of the cell wall, which is proved by watching the formation and development of bone."

The opinion of Schwann and Hassall I can fully corroborate from my own observations upon an ossifying frontal bone, from a human embryo measuring two inches from heel to vertex. Each lateral half of the bone is about $3\frac{1}{2}$ lines in diameter, and presents to the naked eye the appearance of a delicate and close net-work, arising from the numerous areola occupied by temporary cartilage. The frontal and orbital plates, it is worthy of incidental remark, at this period, are nearly on a plane with each other, or are connected together at a very obtuse angle along a central, transverse, crescentic, raised line, the rudimentary supra-orbital ridge.

The mode of development of the Purkinjean corpuscle, as noticed upon the upper or posterior border of the os frontis, is briefly as follows: After the primitive ossific rete has been formed from the deposit of the osseous salts, enclosing groups of cartilage cells in the areola, the further deposit takes place in a fibrous or line-like course from the parietes of the areola of the primitive osseous rete, in the interspaces of the cartilage cells nearest to, or in contact with the sides of the areola. At this period the cells shoot out or extend their canaliculi between the fibrillæ just formed, and then the cell-wall and continuous walls of the canaliculi fuse with the translucent, homogeneous, or hyaline substance of the cartilage existing between the cells and the osseous fibrillæ, and with the fibrillæ themselves, by the deposit of the osseous salts. The period of the formation of the canaliculi appears to be quite definite, occurring during the deposit of the osseous salts, and not before. To such an extent is this the case, that I noticed in several instances cells which had formed their canaliculi upon the side which was ossified, while upon the other side I could not distinguish any trace of them.

During the whole time of the formation of the Purkinjean corpuscle, the

nucleus remains unchanged; at least no change is perceptible in it beneath the microscope, and by applying tincture of iodine to the preparation, which turns the nucleus brown, I was able to detect it within the perfected Purkinjean corpuscle, not only corresponding to the nucleus of the remaining unossified cartilage cells in granular structure, but also in its measurements. After the Purkinjean corpuscle has been formed a short time, the nucleus dissolves away or disappears.

The newly formed Purkinjean corpuscle is about the same size as the remaining unossified cartilage cells, as indicated in the list of measurements appended to these notes.

Size of cell of temporary cartilage, from the unossified os frontis of a human embryo, $\frac{1}{88}$ of an inch; nucleus of do. $\frac{1}{22}$ of an inch; nucleolus $\frac{1}{33}$ of an inch; Purkinjean corpuscle $\frac{1}{55}$ of an inch; nucleus within the same $\frac{1}{33}$ of an inch.—*Proceedings of Academy of Natural Sciences of Philadelphia*, Nov. 1848.

On the Arrangement of the Areolar Sheath of Muscular Fasciculi and its Relation to the Tendon. By JOSEPH LEIDY, M.D.—Well known is it, that the fasciculi of fibres of the muscles are surrounded by sheaths of areolar tissue, but the arrangement of the filaments of fibrous tissue forming the sheaths, and their relation with the tendon, I think has not been properly pointed out. From repeated observation, I have found that the filaments of fibrous tissue cross each other diagonally around the muscular fasciculi, forming a doubly spiral extensible sheath. None of the filaments run in the direction of the length of the fasciculi, and but few are transverse. Many of the filaments of a sheath form an interlacement in the same diagonal manner with the filaments of the sheaths of neighbouring fasciculi. This arrangement is readily distinguished, if several fasciculi be drawn slightly from each other upon a plate of glass, and the intervening areolar tissue be viewed beneath the microscope. When the filaments reach the rounded extremities of the fasciculi, they become straight, and in this manner conjoin with the tendinous filaments originating at the extremities of the muscular fibres. The importance of this arrangement can be readily understood; from the diagonally crossing course of the areolar filaments, comparatively inelastic in themselves, the sheath is rendered elastic. thus permitting the muscular fibres freely to move without their action being interfered with, while at the point of attachment of the fasciculi, where any elasticity would be worse than useless, from the fact that part of the muscular action would be lost in the mere extension of an elastic substance, we find the filaments arrange themselves so as to become part of the inextensible tendon.—*Ibid.*

Intermaxillary Bone in the Embryo of the Human Subject.—Dr. LEIDY offered the following observations on the existence of the intermaxillary bone in the embryo of the human subject:

The immortal Goethe, I believe, was the first to point out the existence of the os intermaxillare in the human subject, but it has only been observed in an abnormal condition, or where there has been an arrest of development in connection with some cases of hare-lip; and the period of life in which it is found as a distinct piece, and its exact limits, have not yet been accurately determined. The universality of the presence of the os intermaxillare in all animals below man, its presence as a distinct piece in an abnormal condition in man, always defined by a lateral fissure which characterizes it as the incisive bone, and the uniform existence of a transverse fissure behind the incisive alveoli of the os maxillare superius of the human fœtus at birth, have led many anatomists to suspect its normal and independent existence in the embryonic condition of man at an earlier period than it has been sought for.

As the negro in his anatomical characters is not so far removed from the embryological condition as the white, it is to be presumed that the intermaxillary bone would remain longer distinct; and under such an impression I have several times desired medical students, from our Southern States, whose opportunities of investigating the anatomy of the negro are frequent, to make this a subject of inquiry. Such an opinion cannot be considered unworthy of attention, when